

What is claimed is:

1. A conditional access system comprising:

a demultiplexer for demultiplexing a packet stream transmitted from a transmitting site into encrypted coded media data, an ECM (Entitlement Control Message) and an EMM (Entitlement Management Message);

an EMM decryption section for retrieving work keys and subscriber contract information from the EMM extracted by said demultiplexer;

means for retrieving partial viewing authorization information included in one of the EMM and ECM extracted by said multiplexer;

an ECM decryption section for decrypting the ECM using the work keys, and for retrieving scrambling keys from the ECM; and

outputting means for descrambling and decoding part of the coded media data using the scrambling keys when the partial viewing authorization information permits partial viewing, and for outputting the partially decoded coded media data.

2. The conditional access system according to claim 1, wherein said ECM decryption section comprises:

means for intermittently retrieving the scrambling keys from the ECM when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing, and wherein said outputting means comprises:

a media data descrambling section for descrambling the coded media data using the scrambling keys retrieved by said ECM decryption section; and

a decoding section for decoding the coded media data

descrambled by said media data descrambling section.

3. The conditional access system according to claim 2, wherein said means for intermittently retrieving the scrambling keys comprises:

a decryption validity decision section for outputting decryption control information in response to the subscriber contract information and the partial viewing authorization information; and

- 10 a decryption processor for intermittently retrieving the scrambling keys from the ECM in response to the decryption control information when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing.

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4. The conditional access system according to claim 2, wherein said means for intermittently retrieving the scrambling keys comprises:

a decryption processor for retrieving all scrambling keys included in the ECM;

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a scrambling key output validity decision section for outputting output control information in response to the subscriber contract information and the partial viewing authorization information; and

- 25 an output controller for supplying said media data descrambling section with only part of the scrambling keys in response to the output control information when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing.

5. The conditional access system according to claim 1, wherein said outputting means comprises:

a media data descrambling section for intermittently descrambling the coded media data using the scrambling keys when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing; and

a decoding section for decoding the coded media data descrambled by said media data descrambling section.

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6. The conditional access system according to claim 5, wherein said media data descrambling section comprises:

a descramble validity decision section for outputting descramble control information alternately authorizing and inhibiting descrambling when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing;

a descrambler for descrambling part of the coded media data in response to the descramble control information; and

a scramble control information modifier for handling part of the coded media data which is not descrambled as unencrypted data.

7. The conditional access system according to claim 1, wherein said outputting means comprises:

a media data descrambling section for descrambling the coded media data using the scrambling keys retrieved by said ECM decryption section; and

a decoding section for intermittently decoding the coded media data descrambled by said media data descrambling section,

when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing.

- 5 8. The conditional access system according to claim 7, wherein said decoding section comprises:

a decoding validity decision section for outputting decoding control information in response the subscriber contract information and the partial viewing authorization information;
10 and

a decoding processor for decoding only part of frames in a frame sequence constituting the coded media data in response to the decoding control information when the subscriber contract information inhibits viewing and the partial viewing
15 authorization information permits partial viewing.

9. The conditional access system according to claim 8, wherein said decoding processor decodes only I frames in response to the decoding control information when the subscriber contract
20 information inhibits viewing and the partial viewing authorization information permits partial viewing.

10. The conditional access system according to claim 7, wherein said decoding section comprises:

— 25 a decoding processor for decoding all the coded media data descrambled by said media data descrambling section; and

a media display controller for supplying only part of the descrambled coded media data to a television receiver when the subscriber contract information inhibits viewing and the partial
30 viewing authorization information permits partial viewing.

11. The conditional access system according to claim 1, wherein said outputting means comprises:

5 a media data descrambling section for descrambling the coded media data using the scrambling keys retrieved by said ECM decryption section; and

10 a decoding section for decoding the coded media data descrambled by said media data descrambling section, for storing the decoded coded media data into a memory on a block by block basis, and for outputting the blocks with changing their sequence when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing.

15 12. The conditional access system according to claim 1, wherein said EMM decryption section comprises means for intermittently retrieving work keys from the EMM when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing, wherein said
20 ECM decryption section decrypts the ECM using the work keys and retrieves scrambling keys from the ECM, and wherein said outputting means comprises:

25 a media data descrambling section for descrambling the coded media data using the scrambling keys retrieved by said ECM decryption section; and

a decoding section for decoding the coded media data descrambled by said media data descrambling section.

30 13. The conditional access system according to claim 12, wherein said means for intermittently retrieving work keys comprises:

a decryption validity decision section for outputting decryption control information in response to the subscriber contract information and the partial viewing authorization information; and

5 a decryption processor for retrieving only part of the work keys from the EMM in response to the decryption control information when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing.

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14. The conditional access system according to claim 12, wherein said means for intermittently retrieving work keys comprises:

a decryption processor for retrieving all the work keys included in the EMM;

15 a work key output validity decision section for outputting output control information about the work keys in response to the subscriber contract information and the partial viewing authorization information; and

20 a work key output controller for supplying only part of the work keys to said ECM decryption section in response to the output control information when the subscriber contract information inhibits viewing and the partial viewing authorization information permits partial viewing.

— 25 15. The conditional access system according to claim 1, wherein the partial viewing authorization information includes a control parameter indicating a partially authorized viewable range.

30 16. The conditional access system according to claim 1, wherein the partial viewing authorization information consists of

information authorizing viewing only for a specific time period.

17. The conditional access system according to claim 1, wherein the subscriber contract information that includes information
5 authorizing partial viewing is used as the partial viewing authorization information.

18. The conditional access system according to claim 1, wherein the EMM is used into which the work keys are inserted only for
10 specific time periods.

19. The conditional access system according to claim 1, wherein said demultiplexer and said decoding section are based on the MPEG-2 standard.
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20. The conditional access system according to claim 1, wherein when a plurality of programs are multiplexed into the packet stream transmitted from the transmitting site, authorization, partial authorization and inhibition of viewing the programs are
20 determined for individual programs independently.